

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,539	04/23/2001	Michihiro Kaneko	PU01-0171	2127
21254	7590 05/31/2005		EXAM	INER
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD		WONG, KIN C		
SUITE 200 VIENNA, VA 22182-3817			ART UNIT	PAPER NUMBER
			2651	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)			
	09/839,539	KANEKO ET AL.			
Office Action Summary	Examiner	Art Unit			
-	K. Wong	2651			
The MAILING DATE of this communication					
Period for Reply	, 				
A SHORTENED STATUTORY PERIOD FOR R THE MAILING DATE OF THIS COMMUNICATI - Extensions of time may be available under the provisions of 37 C after SIX (6) MONTHS from the mailing date of this communicatic - If the period for reply specified above is less than thirty (30) days, - If NO period for reply is specified above, the maximum statutory p - Failure to reply within the set or extended period for reply will, by Any reply received by the Office later than three months after the earned patent term adjustment. See 37 CFR 1.704(b).	ON. FR 1.136(a). In no event, however, may a control on. In reply within the statutory minimum of thire eriod will apply and will expire SIX (6) MON statute, cause the application to become Al	reply be timely filed ty (30) days will be considered timely. NTHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).			
Status					
1) Responsive to communication(s) filed on	12 April 2005.				
3) Since this application is in condition for all	· · · · · · · · · · · · · · · · · · ·				
closed in accordance with the practice un	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.				
Disposition of Claims					
4) Claim(s) 1-8,11-14 and 17-24 is/are pend 4a) Of the above claim(s) is/are wit 5) Claim(s) is/are allowed. 6) Claim(s) 1-8,11-14 and 17-24 is/are reject 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and application Papers 9) The specification is objected to by the Example 2.	hdrawn from consideration. ted. and/or election requirement. miner.	by the Evaminer			
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).					
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).					
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.					
Priority under 35 U.S.C. § 119					
12) Acknowledgment is made of a claim for fo a) All b) Some * c) None of: 1. Certified copies of the priority docur 2. Certified copies of the priority docur 3. Copies of the certified copies of the application from the International B * See the attached detailed Office action for the application from the action for th	ments have been received. ments have been received in A priority documents have been ureau (PCT Rule 17.2(a)).	Application No received in this National Stage			
Attachment(s)					
1) Notice of References Cited (PTO-892)		Summary (PTO-413)			
 Notice of Draftsperson's Patent Drawing Review (PTO-94) Information Disclosure Statement(s) (PTO-1449 or PTO/S Paper No(s)/Mail Date 		s)/Mail Date. <u>07505</u> . nformal Patent Application (PTO-152) 			

Applicant's request for reconsideration of the finality of the rejection of the last Office action is accepted and, therefore, the finality of that action is withdrawn.

This office action is based with amendment filed on 4/12/05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1-2, 8-9, 14-15 and 21-24) are rejected under 35 U.S.C. 102(b) as being anticipated by Pennock (4885517).

Regarding claim 1: Pennock discloses a disk drive apparatus (in col. 1, lines 12-18 where Pennock describes the disk drive) for controlling, under supply of a power voltage having a predetermined rating level, a head drive section to position a head in a radial direction of an information recording disk and carry out a write and/or read operation of information while rotatively driving the information recording disk by a rotation drive motor, the disk drive apparatus including:

a forcible restoring section for controlling the head drive section to forcibly bring the head to a retract position when the power voltage goes below a first voltage level smaller than the rating level (in col. 2, lines 22-42 and col. 4, lines 36-55 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage); and

a normal restoring section for controlling the head drive section to move the head toward the retract position on the basis of the power voltage when the power voltage goes below a second voltage level smaller than the rating level but greater than the first voltage level (in col. 8, line 41 to col. 9, line 44 where Pennock describes two voltage level condition for retraction with one voltage level that higher than other voltage level).

Regarding claim 2: Pennock teaches that wherein the information recording disk comprises a magnetic disk (in col. 1, lines 12-18).

Regarding claim 8: Pennock discloses a disk drive apparatus (see col. 1, lines 12-18 of Pennock) for controlling, under supply of a power voltage, a position of a read/write head in a radial direction of an information recording disk, to bring the head to a periphery of the information recording disk under low power conditions (in col. 2, lines 22-42 where Pennock describes the monitor the supply voltage to set a voltage for head retraction), the disk drive apparatus including:

a rotation drive motor (in col. 4, lines 36-41 of Pennock) for rotating the information recording disk;

a head drive section for driving the head over the information recording disk (in col. 3, lines 30-32);

a voltage value monitor (element 8 in figure 1 of Pennock) for monitoring the value of the power voltage, and

a controller (in col. 3, lines 30-46 of Pennock), responsive to the monitored value of the power voltage being above a first predetermined level, for providing the power

Application/Control Number: 09/839,539

Art Unit: 2651

voltage to the rotation drive motor to rotate the information recording disk and to the head drive section to drive the head in a first direction, wherein:

the controller is responsive to the monitored value of the power voltage being equal to or less than the first predetermined level and above a second predetermined level for providing the power voltage to the head drive section to drive the head toward the periphery of the information recording disk (in col. 2, lines 22-42 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage, and, in col. 9, lines 7-16 where Pennock describes two voltage level condition for retraction with one voltage level that higher than other voltage level), and

the controller is further responsive to the monitored voltage being equal to or less than the second predetermined level for providing reverse electromotive force (or back-EMF) from the rotation drive motor to the head drive section to drive the head to the periphery of the information recording disk (in col. 2, lines 22-42 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage and in col. 4, lines 36-55 where Pennock describes the usage of the back-EMF of the spindle motor supply power for the retraction).

Regarding claim 14: Pennock disclose a disk drive apparatus (see col. 1, lines 12-18 of Pennock), including:

a rotation drive motor (in col. 4, lines 36-41 of Pennock) for rotating an information recording disk;

a read/write head (in col. 1, lines 15-18) for reading and writing information on the information recording disk;

a head drive motor for driving the head over the information recording disk (in col. 3, lines 30-32);

a voltage input (element 37 in figure 1 and see associated descriptions for details) for providing voltage to the rotation drive motor and to the head drive motor;

a voltage value monitor (element 8 in figure 1 of Pennock) for monitoring the value of the voltage provided by the voltage input (in col. 2, lines 22-42 where Pennock describes the monitor the supply voltage to set a voltage for head retraction); and

a controller (in col. 3, lines 30-46 of Pennock), responsive to the monitored voltage value being above a first predetermined level, for providing voltage from the voltage input to the rotation drive motor to rotate the information recording disk and to the head drive motor to drive the head in a first direction, wherein:

than the first predetermined level and above a second predetermined level for providing voltage from the voltage input to the head drive motor to drive the head toward the periphery of the information recording disk (in col. 2, lines 22-42 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage, and, in col. 9, lines 7-16 where Pennock describes two voltage level condition for retraction with one voltage level that higher than other voltage level), and

the controller is further responsive to the monitored voltage value being equal to or less than the second predetermined level for providing reverse electromotive force (back-EMF) from said rotation drive motor to the head drive motor to drive the head to the periphery of the information recording disk (in col. 2, lines 22-42 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage and in col. 4, lines 36-55 where Pennock describes the usage of the back-EMF of the spindle motor supply power for the retraction).

Regarding claim 21: Pennock depicted in figure 1 that wherein the controller includes: a head drive control circuit for controlling the head drive motor to drive the head to a desired position over the information recording disk; and a processor for providing instructions to the head drive control circuit (see associated descriptions for details).

Regarding claim 22: Pennock discloses a disk drive apparatus (see col. 1, lines 12-18 of Pennock) for controlling, under supply of power voltage of a level equal to or smaller than a predetermined rating level (in col. 2, lines 22-42 where Pennock describes the monitor the supply voltage to set a voltage for head retraction), a head drive section to position a head in a radial direction of an information recording disk and carry out a write and/or read operation of information while rotatively driving the information recording disk by a rotation drive motor, the disk drive apparatus including:

a first means (element 8 in figure 1 and see associated descriptions for details) for controlling the head drive section to forcibly bring the head to a retract position when

the power voltage goes below a first voltage levels smaller than said rating level (in col. 2, lines 22-42 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage) and

a second means (element 9 in figure 1 and see associated descriptions for details) for controlling the head drive section to move the head toward the retract position on the basis of the power voltage when the power voltage goes below a second voltage level smaller than the rating level but greater than the first voltage level (in col. 2, lines 22-42 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage).

Regarding claim 23: Pennock discloses a disk drive (see col. 1, lines 12-18 of Pennock), including:

a rotation drive motor (in col. 4, lines 36-41 of Pennock) for rotating an information recording disk;

a head (in col. 1, lines 15-18) for reading and/or writing information onto and/or from the information recording disk;

a voltage input (element 37 in figure 1 and see associated descriptions for details) for receiving a predetermined rating level of a power voltage;

a detector (element 8 in figure 1 of Pennock) for detecting an abrupt decrease in the power voltage;

Application/Control Number: 09/839,539 Page 8

Art Unit: 2651

a forcible restoring section, responsive to detection of an abrupt decrease in the power voltage to level less than a first predetermined level lower than the rating level, for moving the head in a direction toward an outer periphery of the information recording disk under power of reverse electromotive force (back-EMF) from the rotation drive motor (in col. 2, lines 22-42 and col. 4, lines 36-55 where Pennock describes the comparison of the supply voltage to the set voltage with the head retraction when the supply voltage is smaller or below the set voltage and in col. 4, lines 36-55 where Pennock describes the usage of the back-EMF of the spindle motor supply power for the retraction); and

a normal restoring section, responsive to detection of an abrupt decrease in the power voltage to a second predetermined level, lower than the rating level and equal to or greater than the first predetermined level, for moving said head in a direction toward an outer periphery of the disk under power of voltage from the voltage input (in col. 8, line 41 to col. 9, line 44 where Pennock describes two voltage level condition for retraction with one voltage level that higher than other voltage level).

Regarding claim 24: method claim (24) is drawn to the method of using the corresponding apparatus claimed in claim 1. Therefore method claim 24 corresponds to apparatus claim 1 and is rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims (3-5, 12-13 and 18-20) are rejected under 35 U.S.C. 103(a) as being unpatentable over Pennock (4885517) in view of Smith et al (6546456).

Regarding claims 3, 4, 12, 13, 18 and 19-20: the reason for Pennock is stated in above rejections. Pennock is silent on the ramp for the retracted head position and the supply power that is from a vehicle (or car). Smith et al is relied on the ramp (element 316 in figure 3 of Smith et al) for the retracted head position (see col. 7, lines 39-50 of Smith et al), and, the power supply from the car power system (as depicted in figure 1 and col. 5, line 9 to col. 6, line 3 of Smith et al).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the power supply system of Pennock to includes with the car power system and ramp for the head as taught by Smith et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to provide an alternative power source for the disk drive and a safety placement of the head.

Regarding claim 5: the combination of Pennock and Smith et al teaches that a microprocessor for operating the forcible restoring section and the normal restoring section with the power voltage (in col. 2, line 66 to col. 3, line 5 of Pennock and element 101 in figure 1 of Smith et al).

Claims (6, 7, 11 and 17) are rejected under 35 U.S.C. 103(a) as being unpatentable over Pennock (4885517) and Smith et al (6546456) as applied to claim 4 above, and further in view of Kao (5374933).

Regarding claims 6, 11 and 17: the combination of Pennock and Smith et al is silent on the recorded navigation information (or GPS or Global positioning system) on the disk in a drive. Kao is relied on for the teachings GPS that stored in a disk drive (see col. 7, lines 1-22 of Kao).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the disk drive of Pennock and Smith et al with GPS information into the disk drive. The rationale is as follows: one ordinary skill in the art would have been motivated to enable a user (driver) with route guidance on the road as suggested in col. 7, lines 4-8 of Kao.

Moreover, a substitution of one recorded information data (GPS data) for another and without any unexpected result would be a merely substitution of the information data (i.e. video, audio or text data) for the same purpose (recording data on the disk).

See in re Ruff, 256 F.2d 590, 118 USPQ 340 (CCPA 1958).

Regarding claim 7: Pennock teaches that wherein only a battery voltage to the disk drive apparatus is monitored to detect variation in the power voltage (in col. 4, lines 26-32 of Pennock).

Response to Arguments

Regarding remarks (4/12/05) on page 9: applicants and applicants' representative (Mr. James Dresser) asserted that the examiner fails to response to the telephone request for Withdrawal of Finality. The examiner has inform to Mr. Dresser to submit a formal request (in writing) for the Withdrawal of Finality (37 CFR 1.2).

§ 1.2 Business to be transacted in writing.

All business with the Patent and Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is

unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

Regarding remarks (4/12/05) on pages 9-10: applicants and applicants' representative asserted that the amendment filed on 6/16/04 do not change the scope of the claim but a merely an editorial changes to the preamble and the subsequent editorial to the body of the claim. Such changes are only affected to the form of the claim as the applicants and applicant's representative decries. The examiner respectfully disagrees because the editorial changes which emphasized the cruciality of an element in the body of the claim and changed the meet and breathe of the claim. Thus, it is construed as an amendment to the claim and especially when it recited quantitative value of the elements in the claim. Hence forth, the editorial amendment is not only affect the form of the claim; but also, the scope of the claim because of the emphasized cruciality of the elements in the claim which give new breathe to the scope of the claim.

PREAMBLE STATEMENTS LIMITING STRUCTURE

Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A. Inc., \$68 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble rectations are structural finitations can be resolved only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim."); Pac-Tec Inc. v. Amerace Corp., 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a sinustrial limitation is actually part of the classed invention). See also in re Stemel, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987). (The claim at issue was directed to a driver for setting a joint of a threaded collar, however the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as bruiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver. "[1] he framework - the teachings of the prior art - against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so Emited." Id. at 1073, 828 F.2d at 754.).

Regarding remarks (4/12/05) on page 11: applicants' representative asserted that the deletion of the words "at a first speed" have no relevant or cruciality to the scope of the claim and a merely editorial change which is not amendment or affects to the scope of the claim. Further, the applicants' representative asserted that applicants have no amendment to necessitate the new ground of rejection. The examiner disagrees because the phrase "at a first speed" has meanings and purpose in the claim because it shows the magnitude, direction, distance and a control feedback loop between the controller and the head drive section (as pertaining to/in lines 10 and 11 of claim 8 and also respectively to claim 14). Thus, the meanings and purpose of the phrase is not hindsight as pertaining to the claim and noted recitations in lines 10-11 of the claim 8. Therefore, it is relevant to the control process of the controller because it also further shows the degree of controls in the retraction or restoring the head process. Hence, the deletion of the phrase is a limiting nature for the claim; thus, it necessitated

the new ground of rejection which applicants and applicants' representative induced in the deletion.

Regarding remarks (4/12/05) on pages 11-12: applicants and applicants' representative asserted that examiner conducted a "Piecemeal Office Action" in Office Action on October 12, 2004 and violated the MPEP § 707.07 (g) and MPEP § 706.07 (a). The examiner disagrees because the Office Action is a direct response to the claims as the applicants and applicants' representative presented in the amendment of June 16, 2004 (furthermore, applicants and applicants' representative have response with the "editorial amendment" in each and every Office Actions) which the amendment of June 16, 2004 to preamble and the body of the claim have changed the meet and breathe of the scope of the claim with the limiting elements to the claim. Thus, the examiner did not necessitate the new ground of rejection. Furthermore, the reference (Pennock – 4885517) as of record (the applicants and the applicants' representative have accorded this references as of record in Office Action of March 17, 2004 in page 9 of the remarks filed on 4/12/2005) is proper because it not a new reference of the record and the new ground of rejection is necessitated by the applicants and applicant's representative in the changing of the breathe of the claim. Hence forth, the examiner did not violate the MPEP § 707.07 (g) and MPEP § 706.07 (a) and the examiner did not necessitate the new ground of rejection. Moreover, the examiner did not conducted a "Piecemeal Office Action" as the applicants and the applicants' representative have asserted.

Hence forth, the rejection of October 12, 2004 and Pennock are proper.

Applicants' arguments to the claims and to the newly amended claims as filed 4/12/05 have been fully considered but they are not persuasive.

Regarding remarks (4/12/05) on page 16 respective to Pennock: applicants and applicants' representative asserted that Pennock utilizing two voltages of two separate voltage levels – Vcc and 5V where the instant invention use one voltage. Examiner disagrees because the Vcc and the 5V are the same voltage (as depicted in figure 7 of Pennock) and from the same power source; furthermore, it is well known that the Vcc is defined to be 5V as a standard voltage in the art.

Regarding remarks (4/12/05) on pages 16-17 respective to Pennock: applicants and applicants' representative assert that Pennock do not have three voltage levels. This assertion is traversed because Pennock suggests and/or shows three voltage levels for triggering the retraction circuit as show in illustration in figure 1 and applicants and applicant's representative are directed to col. 4, lines 36-55 (i.e. Vref (Vcc), RETR (logic high) and under voltage or 5v, 4.7v and 4v/or lower).

Regarding remarks (4/12/05) on page 17: applicants and applicants' representative assert that Pennock fails to show or suggest of forcibly retraction of the head. Pennock discloses under voltage or voltage failure or emergency retraction is well know to be a forcibly retraction of the head by the artisan in the art. Therefore, Pennock does show forcibly retraction.

Regarding remarks (4/12/05) on page 17: applicants and applicants' representative assert that Pennock fail to show or suggest the reverse electromotive force (or back-EMF) from the spindle motor for providing power to the retraction

operation. Applicants and applicant's representative are directed to col. 9, line 53 to col. 10, line 5.

Regarding remarks (4/12/05) on page 17-19: applicants and applicants' representative assert that Pennock does not have second voltage level which greater than the first voltage level and smaller than set voltage level or two voltage level conditions for the retraction. This assertion is traversed because the second voltage level in Pennock is the logic high (a logic high has logic threshold voltage level of 4.7 voltage as a standard logic high in respective to Vcc = 5V) (see col. 8, line 41 to col. 9, line 6 of Pennock for details). Therefore, Pennock discloses two voltage level conditions for retraction.

Hence forth, Pennock has three voltage levels or two voltage conditions for retraction. Thus, Pennock is proper with two voltage conditions for retraction; and, the combinations of Pennock/Smith and Pennock/Kao are also proper because Pennock is proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Logic Threshold Voltage Levels Chart is cited for logic high standard voltage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Økw

DAVID HUDSPETH SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2600